

AMT 34 AMENDT

The
PCT International Application

10/501993

PCT/SE2003/000109

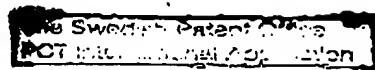
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CLAIMS

DT09 Rec'd PCT/PTO 21 JUL 2004

1. A drive unit comprising a rolling means intended to be in frictional engagement with a surface over which said drive unit is intended to move, a first driving means and a second driving means, co-operatively operable to provide both propulsion and steering of said drive unit while eliminating slippage between said rolling means and said surface, **characterized** in that said first driving means is arranged on a rotatable support means rotatable about a center axis and is operable to rotate said rolling means about a rolling axis, wherein said rolling means is displaced a predetermined distance from said center axis, wherein said second driving means is operable to rotate said support means about said center axis, allowing said support means and said rolling means to rotate with respect to said drive unit.
2. A drive unit according to Claim 1, **characterized** in that said rolling axis is perpendicular to said center axis.
3. A drive unit according to anyone of Claims 1-2, **characterized** in that said support means on its circumference is provided with a sprocket means driven by said second driving means by way of a transmission means.
4. A drive unit according to Claim 3, **characterized** in that said transmission means is a chain which is engaged with said sprocket means and a toothed wheel driven by said second driving means.
5. A drive unit according to Claim 4, **characterized** in that said drive unit also comprises a tension wheel which is engaged with said chain.
6. A drive unit according to Claim 3, **characterized** in that said transmission means is a toothed wheel driven by said second driving means, wherein said toothed wheel is engaged with said sprocket means.

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2

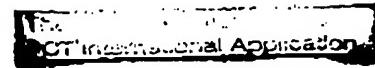
PCT/SE2003/000109

13-05-2004

7. A drive unit according to anyone of Claims 1-6, characterized in that said drive unit also comprises a planetary gear-box mounted on said first driving means, and in connection with said rolling means.
8. A drive unit according to anyone of Claims 1-7, characterized in that said rotatable support means is supported by a ball bearing means.
9. A drive unit according to anyone of Claims 1-8, characterized in that said first and second driving means, each is a servomotor.
10. A drive unit according to anyone of Claims 1-9, characterized in that said rolling means is a wheel.
11. A drive unit according to anyone of Claims 1-10, characterized in that said support means is a round plate.
12. A drive unit according to anyone of Claims 1-11, characterized in that said drive unit also comprises a rotation limiter arranged in the vicinity of said rotatable support means.
13. A drive unit according to anyone of Claims 1-12, characterized in that said drive unit also comprises a sensor means arranged in the vicinity of said rotatable support means, which sensor means is operable to detect the position of said rotatable support means.
14. A powered vehicle comprising a chassis, at least three rolling means mounted on said chassis for engagement with a surface over which said vehicle is to move, characterized in that at least two of said rolling means each is a drive unit according to anyone of Claims 1-13.

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3

PCT/SE2003/000109

13-05-2004

15. A powered vehicle according to Claim 14, characterized in that said powered vehicle comprises four rolling means, each situated at a corner of said chassis, and in that two of said four rolling means are drive units, each arranged at two diagonally arranged corners of said powered vehicle.

16. A powered vehicle according to Claim 14 or Claim 15, characterized in that said powered vehicle also comprises a wireless communication means for receiving control signals from a remote computer system to control said drive units.

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